CONGENITAL LUXATION OF THE ANKLE.[1]

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In all of the reported cases which I have been able to find, congenital luxation of the ankle has been associated with defect of the fibula. These cases have been divided by Hoffa into two classes. In the one the defect of the fibula has been associated with angular deformity of the tibia and defective development of the foot; in the other, the foot has been of normal shape, but the outward deviation of the foot upon the leg has been ascribable to the imperfect development of the external malleolus, depriving the astragalar mortise of its outer part, and to the obliquity of the articular surface of the tibia. The case which is herewith reported belongs in the second class, for the reason that the obliquity of the joint line and normal condition of foot and toes are evident. It would appear to be of especial interest, however, because the fibula is present throughout its course, being possibly thicker than normal, and because it seems possible to draw rather definite conclusions from it regarding the etiology of this whole group of cases.

The patient, a girl of twenty-four months, is the daughter of a baker, and was brought by her father to the dispensary of the Medical College of Ohio. The deformity of the left ankle had been noticed from birth, and its correction had been attempted by desultory courses of manipulation and massage, but without effect. From the first, attempts at walking were attended with great difficulty, but the child has learned to walk with a peculiar limp. Upon walking a short distance, the child complains of fatigue, and finally of pain. There have been no congenital malformations in other members of the family (four other

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children). The pregnancy and labor of the mother were absolutely uncomplicated. The father acknowledged having had a venereal sore many years ago, for which he was treated, and which has been followed by no symptoms of constitutional lues. His other children, according to his statement, have shown no signs of this disease, the mother never miscarried, and all of her children are living.

The child has always been in good health. There have been none of the symptoms of rickets. There is no rosary, and the epiphyses of the other long bones are of normal size. The head is of normal shape. The gait is a peculiar limp, showing great weakness in the left limb, and the pelvis is seen to descend with the application of the left foot. The whole plantar surface is brought into contact with the ground. The photograph shows the outward displacement of the foot upon the leg when weight is borne, but not nearly to the true extent. The child had to be held by the father for the picture, but kept the knees somewhat flexed. The feet are both very flat, but are not everted in walking or standing. Even in recumbency the left foot had its axis in a plane decidedly lateral to that of the leg. The internal malleolus appears prominently, and the external also can be seen. They are both felt to be enlarged, but especially the external, which lies in a plane decidedly above that of the other. Passive motion of the ankle shows the joint line to be oblique from without inward and downward. Almost the full normal range of motion is present. The internal contour of the limb is quite straight; the external presents a marked indentation above the ankle. There was no scar or dimple of the skin at this place. The fibula can be felt throughout its length. The feet are of equal size and present no abnormality of development. The legs are of equal length. The child is otherwise perfectly developed and healthy.

The child was so unruly that the radiogram was made with difficulty. It was, however, sufficiently successful to show the conditions satisfactorily. It is at once seen that the fibula is present in its entire length, but that its shaft is greatly curved inward, diminishing greatly the width of the interosseous space. The bone appears thick in comparison with the tibia. The diameter of the latter on the radiogram is 12.0 millimetres at the

FIG. 1.—Congenital dislocation of the ankle.

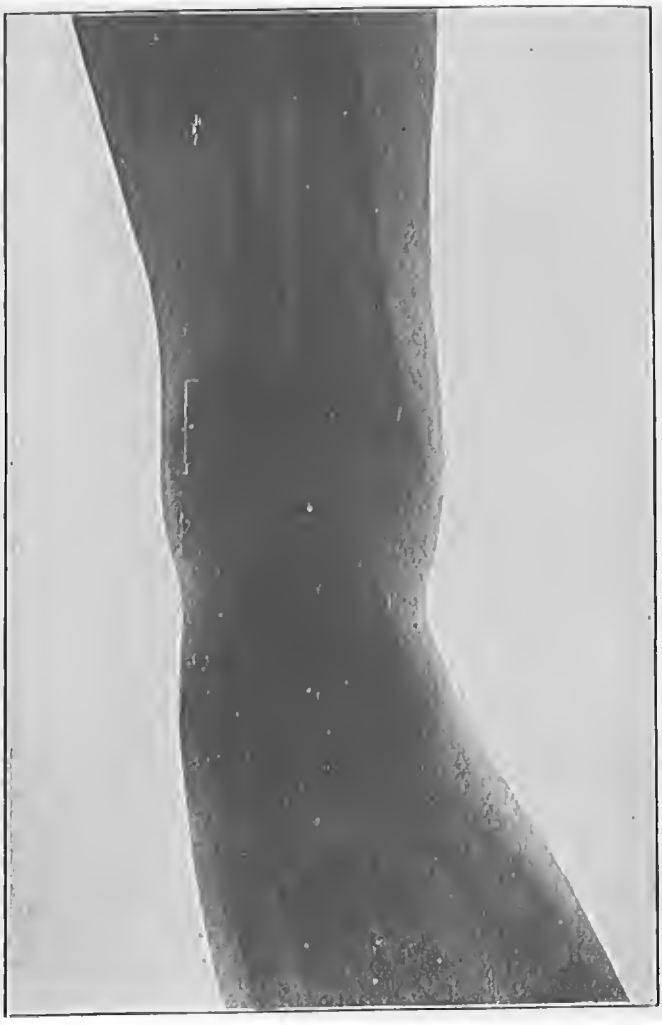

FIG. 2.—Congenital dislocation of the ankle.

middle, while that of the fibula is 8.0 millimetres at a corresponding point. It is in the ankle-joint, however, that the most interesting condition is found. Instead of being distinctly lower than the inferior tibial epiphysis, that of the fibula is higher. The joint line is at an angle of seventy-five degrees with the axis of the leg, slanting from without inward and downward. On the tracing made over the negative, therefore representing the limb in recumbency, the axis of the leg falls to the inner side of the astragalus altogether. It appears to me perfectly justifiable, on this account, to consider this a congenital dislocation of the ankle-joint.

It was proposed to do osteotomy of the fibula in the hope of bringing down the external malleolus, with possibly the same operation upon the tibia in order to correct the obliquity of the joint line. All operative interference was, however, declined, and the child disappeared from view.

As far as I have been able to ascertain, the case is unique, and its practical interest is therefore not great. In endeavoring to account for its production, it appeared to me to stand in an interesting etiological relation to the cases of defective fibula. The most commonly accepted view of their causation is that of Sperling (*Zeitschrift für Geburtshülfe und Gynäkologie*, 1892), which assumes the pressure of a too narrow amnion early in the embryonal period. In the present instance, it would appear that the curvature of the fibula must have been produced by some such pressure,—pressure great enough to simply bend the developing fibula, but not enough to interfere with its further development. Whether the joint line was oblique at birth, it is impossible to say. This may have developed in consequence of the abnormal function of the joint during the second year of life. The same may be said of the thickness of the fibula. In weight-bearing, the astragalus was under the lower fibular epiphysis, and it is therefore probable that the fibula transmitted considerable stress to the foot.

In all of its physical characters, it seems to me, this case would correspond to an incomplete form of the so-called

"Volkmann's Congenital Ankle Deformity" in so far as the fibula has its bony structure intact. It is furthermore almost self-evident to me that the curvature of the fibula against the straight tibia could have been brought about only by pressure upon it against the tibia. To this extent, this case seems to corroborate the theory of amniotic pressure in the production of defective fibulæ and the deformities thereupon consequent.

Haudeck (*Zeitschrift für Orthopädische Chirurgie*, Band Iv, p. 338) gives an extended discussion and complete bibliography of the subject.